

**Translation**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

530, 752

PCT/JP2003/012980



Applicant's or agent's file reference <b>ONF-4750PCT</b>	<b>FOR FURTHER ACTION</b> See Form PCT/IPEA/416	
International application No. <b>PCT/JP2003/012980</b>	International filing date (day/month/year) <b>09 October 2003 (09.10.2003)</b>	Priority date (day/month/year) <b>10 October 2002 (10.10.2002)</b>
International Patent Classification (IPC) or national classification and IPC <b>A61K 45/00, 31/5575, A61P 11/02, 11/06, 17/00, 27/02, 29/00, 37/08, 43/00</b>		
Applicant <b>ONO PHARMACEUTICAL CO., LTD.</b>		

- This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 6 sheets, including this cover sheet.
- This report is also accompanied by ANNEXES, comprising:
  - ☐ (sent to the applicant and to the International Bureau) a total of \_\_\_\_\_ sheets, as follows:
    - ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
    - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
  - ☐ (sent to the International Bureau only) a total of \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
- This report contains indications relating to the following items:
 

<input checked="" type="checkbox"/> Box No. I	Basis of the report
<input type="checkbox"/> Box No. II	Priority
<input checked="" type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/> Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/> Box No. VI	Certain documents cited
<input type="checkbox"/> Box No. VII	Certain defects in the international application
<input type="checkbox"/> Box No. VIII	Certain observations on the international application

Date of submission of the demand <b>09 April 2004 (09.04.2004)</b>	Date of completion of this report <b>13 August 2004 (13.08.2004)</b>
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2003/012980

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☒ The international application as originally filed/furnished
- ☐ the description:
- pages \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the claims:
- pages \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_, as amended (together with any statement) under Article 19
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the drawings:
- pages \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application.

☒ claims Nos. 9

because:

☒ the said international application, or the said claims Nos. 9  
relate to the following subject matter which does not require an international preliminary examination (*specify*):

See supplemental sheet

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. \_\_\_\_\_  
are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. \_\_\_\_\_ are so inadequately supported  
by the description that no meaningful opinion could be formed.

☒ no international search report has been established for said claims Nos. 9

☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the  
Administrative Instructions in that:

the written form

☐ has not been furnished

☐ does not comply with the standard

the computer readable form

☐ has not been furnished

☐ does not comply with the standard

☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with  
the technical requirements provided for in Annex C-bis of the Administrative Instructions.

☐ see Supplemental Box for further details.

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

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## Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: III. 1.

Claim 9 pertains to methods for treatment of the human body by therapy, and thus relates to subject matter which does not require international preliminary examination by this International Preliminary Examining Authority, under the provisions of PCT Article 34(4)(a)(i) and PCT Rule 67.1(iv).

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

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## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Claims	5, 6	YES
	Claims	1-4, 7, 8, 10	NO
Inventive step (IS)	Claims		YES
	Claims	1-8, 10	NO
Industrial applicability (IA)	Claims	1-8, 10	YES
	Claims		NO

### 2. Citations and explanations

Documents cited in the international search report

Document 1: WO 93/06831 A1 (Board of Regents, The University of Texas System), 15 April 1993

Document 2: Alexander A. Babakhin et al., "Effect of misoprostol on the secretion of histamine from basophils of whole blood", Annals of Allergy, Asthma & Immunology, 2000, Vol. 84, No. 3, pp. 361-365

Document 3: WO 98/34916 A1 (Ono Pharmaceutical Co., Ltd.), 13 August 1998

Document 4: N. Ibrahim et al., "Prostaglandin E2 inhibits spontaneous inhibitory postsynaptic currents in rat supraoptic neurones via presynaptic EP receptors", Journal of Neuroendocrinology, 1999, Vol. 11, pp. 879-886

Document 5: S. J. Lydford et al., "Pharmacological studies on prostanoid receptors in the rabbit isolated ear artery", British Journal of Pharmacology, 1996, Vol. 117, No. 1, pp. 13-20

Document 6: US 5157052 A (Monsanto Company), 31 August 1993

Document 7: WO 02/20462 A1 (Ono Pharmaceutical Co., Ltd.), 14 March 2002

## Explanations

The inventions set forth in claims 1-4, 7 and 10 are not novel over documents 1 and 2, cited in the international search report.

Documents 1 and 2 disclose the efficacy of compounds such as misoprostil, which have EP3 receptor agonist activity, in preventing and treating allergic disorders such as asthma.

The inventions set forth in claims 1-8 and 10 do not involve an inventive step in the light of documents 1-3, cited in the international search report.

Document 3 discloses the fact that compounds described in claims 5 and 6 act by binding strongly to the EP3 receptor.

It is common practice in the art to select the types of allergic condition to be treated by a pharmaceutical preparation, and the compound(s) used and/or types of concomitantly used drugs, as appropriate for the intended purpose; and a person skilled in the art could easily specify the types of allergic conditions and the compounds and concomitantly used drugs, etc., in the case of prophylactic and therapeutic agents containing a compound having EP3 receptor agonist activity, disclosed in documents 1 and 2, to give the inventions set forth in claims 1-8 and 10.